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From Liḥyān to the Nabataeans: dating the end of the Iron Age in north-west Arabia

Jérôme Rohmer & Guillaume Charloux

Summary
This paper reassesses the political and cultural chronology of north-west Arabia in the second half of the first millennium BC. A close review of the available epigraphic and iconographic evidence shows that it cannot provide any firm chronological anchor for the kingdom of Liḥyān or for the Nabataean takeover of the area: only archaeology may offer new insights into the history of this important but poorly known period. Recent excavation results from Hegra/Madāʾin Ṣāliḥ and from various sites in the al-ʿUlā oasis (Dadan/al-Khuraybah, Tall al-Kathīb, Khīf al-Zahrah) suggest a disruption in the settlement history and material culture of the area in the third century BC. At that time, Dadan and its peripheral settlements seem to have entered a phase of decline, while the Iron Age painted pottery tradition probably came to an end. Conversely, the Saudi-French excavations at Hegra show uninterrupted occupation and development throughout the second half of the first millennium BC, suggesting that this site had replaced Dadan as a regional centre by the early second century BC — that is, well before the commonly accepted date for the Nabataean takeover of the area. Numismatic data confirm the existence of an autonomous power at Hegra from the late third or early second century to the first century BC, revealing a hitherto unknown chapter in the political and cultural history of north-west Arabia.

Keywords: Liḥyān, Nabataeans, Hegra, Dadan, coins

The second half of the first millennium BC is a key chapter in the history of north-west Arabia. According to the prevailing view, it opens with the rise of Liḥyān, a powerful kingdom centred in the oasis of Dadan (modern al-ʿUlā), and ends with the Nabataean takeover of northern Ḥijāz (Fig. 1). This crucial process, whereby the last oasis-centred North Arabian kingdom was evicted by a southern Levantine power strongly connected to the Mediterranean world, is generally considered as marking the end of the North Arabian Iron Age (see e.g. Hausleiter 2010: 230–236).

Surprisingly, this important period remains poorly known. For lack of extensive excavations, past scholarship has relied primarily on epigraphic evidence and occasionally on surface archaeological finds, but since local inscriptions do not contain any unequivocal reference to well-dated external events or persons, it has failed to produce an undisputed chronology for the Lihyanite kingdom. Most scholars agree that 'kings of Liḥyān' appeared within the fifth century BC, replacing an earlier local dynasty whose members were called 'kings of Dadan' (Winnett & Reed 1970: 117–119; Parr 1989: 51; Salles 1996: 597; Hausleiter 2012: 825). Some others continue to favour lower dates, however, such as the mid-fourth century (Farès-Drappeau 2005: 122–126) or the mid-third century BC (Kitchen 1994). As for the end of the kingdom, proposed dates range from the mid-third century BC (Parr, Harding & Dayton 1968: 213–214; Bawden 1979: 71; Farès-Drappeau 2003: 22–23) to the mid-second century BC (Winnett & Reed 1970: 118–120; Parr 1989: 62–63; Farès-Drappeau 2005: 122–126) and even to within the first century BC (Edens & Bawden 1989: 72; Hausleiter 2012: 825–826). The same uncertainty prevails about the Nabataean takeover, for which dates ranging from the mid-second century BC (Winnett & Reed 1970: 120) to the second half of the first century BC (Nehmé et al. 2006: 50; Durand & Gerber 2014: 159) or even to the early first century AD (Robin 2010: 98) have been proposed. Incidentally, we do not even know if the Nabataeans caused the fall of the Lihyanite kingdom (Winnett & Reed 1970: 120), if they filled a power vacuum after the kingdom collapsed (Parr, Harding & Dayton 1968: 213–214), or if these two powers coexisted for some time.

Given these uncertainties, much is expected from two excavation projects recently undertaken at the core of the Lihyanite kingdom (Fig. 2). The first was launched by King Saud University on the very site of the ancient Lihyanite capital, Dadan (modern al-Khuraybah) near the modern town of al-ʿUlā. Since 2004, the team has conducted nine campaigns and has released two detailed reports (al-Said & al-Ghazzi 2013; al-Theeb 2013). The

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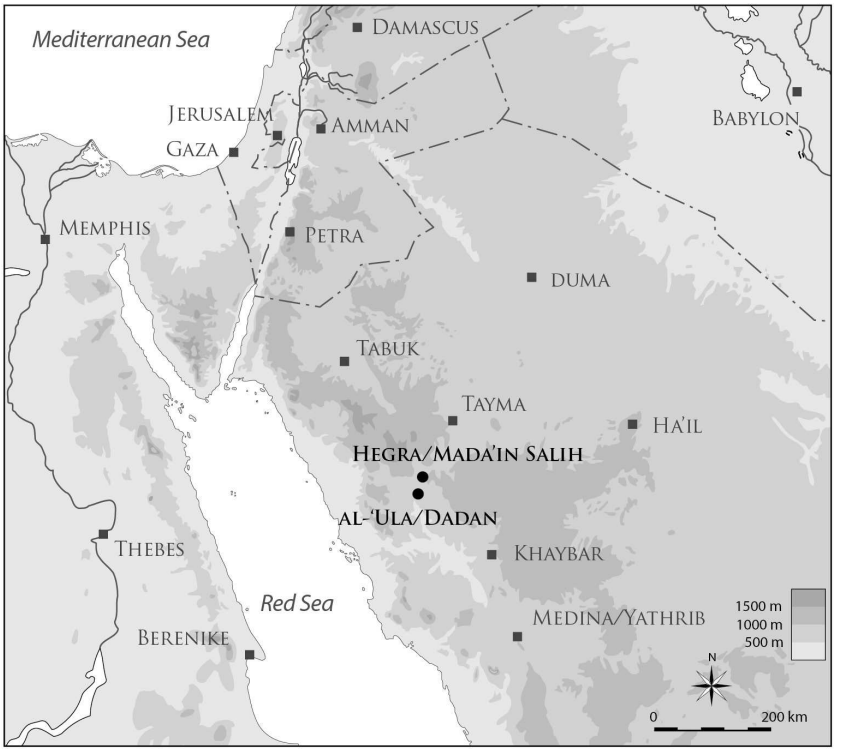

Figure 1. *A map locating al-Khuraybah/Dadan and Madāʾin Ṣāliḥ/Hegra.*

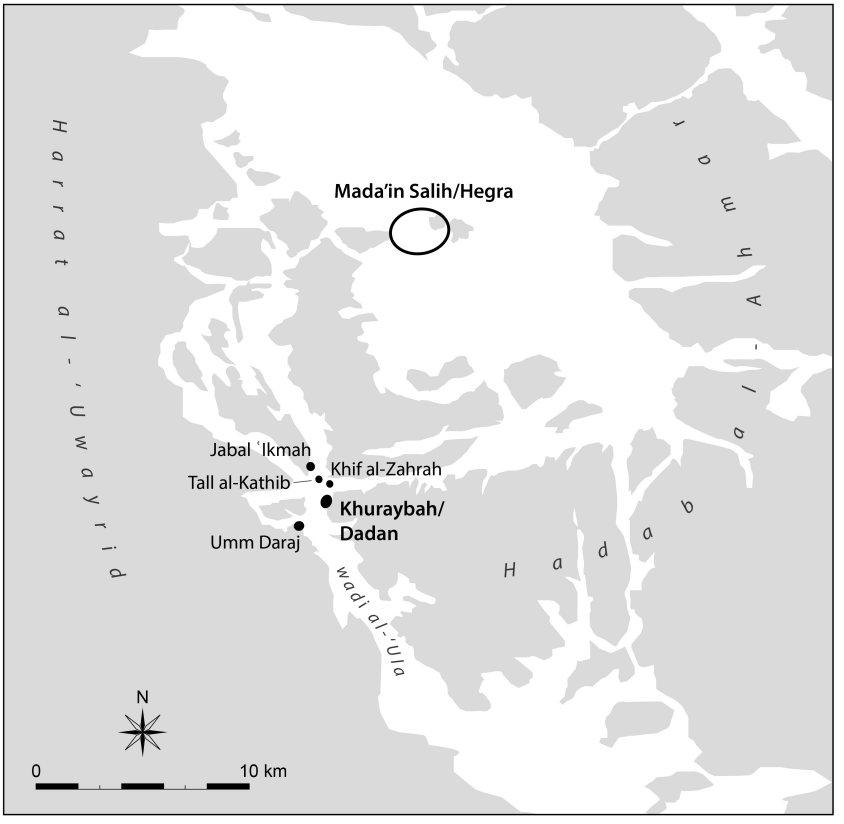

Figure 2. *A map showing the main ancient sites in the al-ᶜUlā area. The grey areas represent the sandstone massifs.*

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second is a joint Saudi-French excavation project at ancient Hegra (modern Madāʾin Ṣāliḥ), a large Nabataean city located *c.*15 km north of Dadan. Based on the results from these excavations, this paper aims to clarify the chronology of the Lihyanite kingdom and the transition towards Nabataean hegemony.

Dating the Lihyanite kingdom: the available evidence

Internal sources: local inscriptions and statuary

The primary evidence for the date of the Lihyanite kingdom comes from the corpus of inscriptions from Dadan and the surrounding area. It comprises several hundred Dadanitic inscriptions — that is, inscriptions written in the local script of Dadan (see bibliography in Macdonald 2004) — as well as more than sixty Minaic texts engraved by members of the Minaean trading colony established in Dadan.

Dadanitic inscriptions

Among this corpus, a key inscription for dating the beginning of the Lihyanite kingdom is JSLih 349, which reads: *nrn bn ḥḍrw t(q)ṭ b-ʾym gs²m bn s²hr w-ᶜbd fḥt ddn brʾ[y]* ..., 'Nīrān b. Ḥāḍiru inscribed his name in the days of Gashm b. Shahr and ᶜAbd the governor of Dadan, in the reig[n of] …' Winnett observed that the text refers to a governor of Dadan and not to a governor of Liḥyān, suggesting that the Lihyanite kingdom had not yet come into existence when it was written (Winnett & Reed 1970: 116). Arguing that the word *fḥt* (a transcription of the Akkadian word for governor, *pīḫatu*) was first used in Aramaic texts of the Achaemenid period, he considered that this inscription was written during a phase of Persian administration in the oasis (Winnett 1937: 49–51; Winnett & Reed 1970: 115–117). He proposed to identify Gashm b. Shahr with the biblical figure of Geshem the Arab (Neh. 2: 19, 6: 1–6) and accordingly dated the text to the second half of the fifth century BC. Cross (1955) and Rabinowitz (1956: 7) supported this dating by equating both the Dadanite Gashm and the biblical Geshem with Geshem, father of Qaynū king of Qedar, who is mentioned on a votive bowl from Tall al-Maskhūṭah, in the Sinai, dated *c.*400 BC. These identifications have been taken up by several scholars since then (Lemaire 1989: 102; Knauf 1990: 205–207; Graf 1990: 139–140).[1]

If we accept these two main assumptions — namely that the text dates to a period of Achaemenid rule in Dadan and that Gashm b. Shahr can be identified with Geshem the Arab and Geshem father of Qaynū — then we have a likely *terminus post quem* for the emergence of Liḥyān in the third quarter of the fifth century BC. The latter assumption, however, has been criticized by several scholars, who argue that the name *gs²m* was very common in Ancient North Arabian (Eph'al 1982: 213–214; Briant 1982: 173; Macdonald 1995*a*: 1368).[2] As for the former assumption, it has been challenged by D. Graf (1990: 140) and M.C.A. Macdonald (1995*a*: 1362), who have shown that the word *fḥt* came into use during the Neo-Babylonian period, not the Achaemenid period. Moreover, a recently discovered Aramaic inscription from Taymāʾ (TA 00964) indicates that this word remained in use under Lihyanite rule, since it mentions a *pḥt* of Taymāʾ under the reign of Lawḏān, king of Liḥyān (Hausleiter 2012: 825; Stein, in press).[3] Therefore, given that Dadan is a place name referring to the city or to the oasis, JSLih 349 may also refer to a governor of Dadan within the larger kingdom of Liḥyān. Considering all this, inscription JSLih 349 cannot provide any secure *terminus post quem* for the emergence of the Lihyanite kingdom. All we know is that the kingdom probably appeared after Nabonidus' arrival in north-west Arabia (552 BC) because a 'king of Dadan' is still mentioned in the Royal Chronicle of this king (Lambert 1968: 8; Macdonald 1997: 336).[4]

Although the Dadanitic inscriptions cannot help refine this broad *terminus post quem*, they allow us to estimate the minimal duration of the Lihyanite kingdom. This can be done simply by adding the regnal years of all the 'kings of Liḥyān' they mention. In the current state of knowledge, at least twelve such kings are known from the Dadanitic corpus, with a total of 199 known regnal years (Farès-Drappeau 2005: 123; Abu al-Hasan 2002: 329).[5] This in turn provides us with a *terminus post quem*

[1] Based on these identifications, Graf (1990: 140–141) suggests that the Qedarite confederation governed the oasis of Dadan on behalf of the Neo-Babylonians and later of the Achaemenids. In this view, Liḥyān would therefore be an offshoot of Qedar.

[2] Even Winnett & Reed (1970: 116–117) remained very cautious in formulating this hypothesis.

[3] We express our sincerest thanks to M.C.A. Macdonald and P. Stein for discussing this issue with us.

[4] We cannot rule out the possibility that the kingdom of Liḥyān was created by Nabonidus himself, as a client kingdom. In order to keep control of this important oasis, Nabonidus could have replaced the old dynasty of Dadan, on which he probably waged war (Lambert 1972: 56; Macdonald 1997: 336), with the shaykhs of a local tribe — Liḥyān. The Lihyanite kingdom may therefore have appeared as early as the beginning of Nabonidus' campaign in Arabia, in 552 BC.

[5] According to Hausleiter (2010: 234; 2012: 825), inscriptions from Taymāʾ mention a new Lihyanite king called *ᶜlym šhrw*, but the author

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for the end of the kingdom: if it cannot have come into existence before 552 BC, it cannot have ended before 353 BC. Therefore, the earliest time range one could possibly imagine for the kingdom of Liḥyān is between the mid-sixth and the mid-fourth centuries BC.

The Minaic inscriptions from the al-ʿUlā area

Apart from these *termini post quos*, can the inscriptions from the al-ʿUlā area provide us with firmer chronological evidence? Winnett and Reed (1970: 117–119) have looked for chronological anchors in the Minaic inscriptions from Dadan, since the Minaean trading colony was most probably established during the Lihyanite period (Van den Branden 1957: 16; Ryckmans 1961: 55–56). These inscriptions mention the names of three Minaean kings: Waqihʾil Ṣadiq (M 321), Abīkarib Yathaʿ (M 321, 358), and Waqihʾil Nabaṭ (M 367). The dates of these kings, however, are still very uncertain; the co-regency of Waqihʾil Ṣadiq and Abīkarib Yathaʿ has been dated between 360 BC and 155 BC (Bron 2008), and the reign of Waqihʾil Nabaṭ between 245–220 BC (Wissmann 1976: 391–392) and 135–120 BC (Kitchen 1994: 48).[6] Altogether, the chronology of Minaean kings is very uncertain (Bron 1998: 18).

Royal onomastics and statuary

In a famous article, Tarn (1929) made the case for strong ties between Liḥyān and Ptolemaic Egypt. According to him, the Lihyanite kingdom reached its heyday at the time of Ptolemy II, who established a protectorate over north-west Arabia. This theory relies on a controversial interpretation of an enigmatic Egyptian text, which has been much criticized in recent scholarship (Lorton 1971; Salles 1996: 600–602). Tarn raised two interesting arguments, however, concerning the chronology of the Lihyanite kingdom. First, he argued that the name *tlmy*, which is borne by several Lihyanite kings, is otherwise unknown in ancient North Arabian languages, and he suggested that it might be a transcription of Ptolemaios (see also Edens & Bawden 1989: 70; Farès-Drappeau 2005: 124). Second, he underlined the strongly Egyptianizing features of the colossal statues found at Dadan and related them to the influence of Ptolemaic Egypt (Jaussen & Savignac 1909–1914, ii: pls 28–31; Parr, Harding & Dayton 1968: 214, pls 11–12; al-Ghabban et al. 2010: figs 111–116; see Fig. 3). Tarn's first argument has been questioned by several scholars, who argue that the name *tlmy* is well attested in West Semitic languages (al-Ansary 1969: 10; Parr 1989: 52).[7] His second argument, however, remains widely accepted (Saleh 1970; Parr 1989: 62; Edens & Bawden 1989: 70; Hausleiter 2010: 258–260; al-Ghabban et al. 2010: 276–279), although Glanville (quoted by Tarn 1929: 19) had already suggested that the Egyptianizing features found in these statues may be dated as early as the late 26th Dynasty (664–525 BC).

Yet a close observation of these statues supports Glanville's opinion (Fig. 3). On two of the statues (al-Ghabban et al. 2010: 278–279), the rich modelling of the upper part of the body may at first remind one of Greek art, but the tripartition of the torso along horizontal lines (chest–rib cage–abdomen), which is particularly emphasized on all statues from Dadan, is typically Egyptian, not Greek (Levin 1964: 19–21). It is found at least from the late 26th Dynasty onwards on Egyptian stone statues (Bothmer 1960: 35; Perdu 2012: 60–61).[8] Moreover, the protruding clavicle is particularly reminiscent of sculptures from the 25th and 26th Dynasties (Perdu 2012: 61). For the rest, most iconographic features (the stiff frontal posture, the clenched fists, the simple loin cloth) and anatomical details (the basic treatment of the upper limbs, the thigh muscles forming an inverted V over the kneecap, the sharp tibial

does not specify if they mention his regnal years. According to Abu al-Hasan (2002: 329) king *hnʾsʾ bn tlmy* reigned for forty-one years, not sixteen years. We do not count as kings of Liḥyān ʿAbd (contra Farès-Drappeau 2005), Mašʿūdū, *mtʿʾl*, and *fḏg* (contra Abu al-Hasan 2002: 329). ʿAbd is governor of Dadan, not king of Liḥyān (JSLih349). Mašʿūdū (JSNab 334, 335, 337) and the newly discovered Šahrū (al-Theeb 2014: 34–35) are known only from Aramaic graffiti from outside the oasis and probably did not reign in Dadan (see below). *mtʿʾl* is not explicitly referred to as a king, and assuming he was one, he may have been a king of Dadan, not of Lihyan (see below, n. 15). The existence of *fḏg* results from a controversial reading of JSlih 70 (Caskel 1954; see Winnett 1937: 14–15).

[6] For a summary of the main chronological frameworks for Maʿīn, see Bron 1998: 16–18.

[7] The name Talmay is already found in the Old Testament, where it is borne by a son of ʿAnaq (Num. 13: 22; Josh. 15: 14; Judg. 1: 10) and by a king of Geshur (2 Sam. 3: 3, 13: 37; 1 Chr. 3: 2). In Safaitic, *tlmy* occurs as a personal name eighteen times, *tlm* at least four times, and *tlmt* once (M.C.A. Macdonald, personal communication). As pointed out to us by Macdonald, it is probably not a transcription of Ptolemaios, since Greek and Latin names in Safaitic are usually taken over with their endings: thus *grfṣ* for Agrippas, *hrdṣ* for Herodes, *flfṣ* for Philippos, and *grmnqṣ* for Germanicus (Macdonald 1995*b*); *ʾqldsʾ* for Claudius, *grgṣ* for Georgios and *ttsʾ* for Titus (Macdonald 2000: 46; 2004: 500). In Nabataean, *tlm* and *tlm* are found once each, and *tlmw* four times (Cantineau 1932: 156; Negev 1991: 68).

[8] See for instance the statue of Nakht-hor-heb (Louvre A94), dated *c.*590 BC (Perdu 2012: 272–281). The comparison made by Dussaud (1920) with Egyptianizing statues of the Hellenistic period from Umm al-ʿĀmid in Phoenicia does not seem particularly relevant (Dunand & Duru 1962: pls 30/1, 81/1, 83/2–3).

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Figure 3. *A statue from al-Khuraybah/Dadan. Red sandstone, 230 x 80 cm; Riyadh, King Saud University, Museum of the Department of Archaeology; Inv. 140D4. (© 2010 Musée du Louvre/Thierry Ollivier).*

crest) are found in Egyptian art since the Old Kingdom (Perdu 2012: 46–49, 60–66). The local iconographic features (headdress held by a rope, belt, arm rings) have no chronological significance, at least in the current state of knowledge. Therefore, the Hellenistic date generally ascribed to the statues from Dadan seems purely arbitrary; on stylistic grounds, they may have been produced as early as the sixth century BC.

Royal graffiti from the Taymāʾ area: kings or tribal leaders?

The latest mentions of 'kings of Liḥyān' come from Aramaic graffiti found in the vicinity of Taymāʾ, along the track from Hegra and Dadan. In al-Khabū al-Gharbī, 20 km south-west of Taymāʾ, Jaussen and Savignac (1909–1914) recorded three graffiti written by a certain Mašʿūdū, who proclaims himself 'king of Liḥyān' (JSNab 334, 335, 337). Their script has been considered as 'early Nabataean' since Jaussen and Savignac, but Macdonald has identified it as a local form of Aramaic that developed in Taymāʾ after the end of the Achaemenid kingdom, in the last third of the first millennium BC — 'Taymāʾ Aramaic' (Macdonald, forthcoming). Recently, S. al-Theeb (2014: 34–35) has published a similar graffito mentioning a certain Šahrū, 'king of Liḥyān', from Jabal Sarmadāʾ, some 30 km south-west of Taymāʾ. According to Macdonald (personal communication), its script is 'either another local form of Aramaic or possibly a later development of the same one.'

According to Winnett and Reed (1970: 120), Mašʿūdū must be regarded an outsider since 'it is unconceivable that a native Lihyanite king would have employed the Nabataean script in preference to Lihyanite'. As we know of no Nabataean king bearing this name, he must have been a Nabataean adventurer who took control of Liḥyān before its annexation to the Nabataean kingdom. The same reasoning could apply to the newly discovered Šahrū. As Macdonald has repeatedly shown, however (see e.g. 1993: 379–380), deducing one's ethnic belonging from the script or language he or she uses is a methodologically flawed approach: in Taymāʾ, for instance, we have examples of Lihyanite officials and kings writing in Aramaic (Schwiderski 2004: 412, no. 20; Macdonald, forthcoming). Moreover, the script of these inscriptions has turned out to be local Aramaic, not Nabataean and therefore they can hardly be related to Nabataean influence.

Conversely, do these inscriptions prove the continuation of the Lihyanite kingdom into the Hellenistic period (Nehmé et al. 2006: 50)? Before rushing to this conclusion, one should take into consideration two facts.

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First, these inscriptions are very simple graffiti located in what were probably campsites along the track from Dadan to Taymāʾ. At least one of them was engraved by the 'king' himself (JSNab 334). In form and content, they do not differ from the dozens of nomads' or merchants' signatures which are engraved on the same cliffs. Second, these texts have been found about 100 km to the north-east of the al-ʿUlā oasis, and it cannot be proved that the kings they mention ever ruled in Dadan. The inscriptions from the al-ʿUlā oasis bear no record of a king of Liḥyān called Mašʿūdū. As for Šahrū, although he bears a well-known royal name, there is no particular reason to identify him with king *sʾhr bn hnʾsl* (Abu Al-Hasan 1997: 84–88, no. 13) or with *sʾhr* father of *gsʾm* (JSLih 349), who are mentioned in inscriptions from the al-ʿUlā oasis.[9]

To sum up, Mašʿūdū and Šahrū are self-proclaimed kings with doubtful ties to the historical core of the Lihyanite kingdom. Even if we take their claim to kingship seriously, we have to bear in mind that the title of king often refers to tribal shaykhs in first-millennium BC Arabia (Macdonald 1995*a*: 1364). We know that a tribe of Liḥyān survived long after the kingdom of Liḥyān, cutting its ties with the al-ʿUlā oasis, since the Banū Liḥyān are found north-east of Makkah in the time of the Prophet (Drewes & Levi della Vida 1986).[10] Therefore, we cannot rule out the possibility that Mašʿūdū and Šahrū were shaykhs of that tribe — or of part of that tribe — whatever its political importance and location at that time. Their existence in the last third of the first millennium BC does not imply that Liḥyān was still a flourishing kingdom with a capital city at Dadan.

External references: Liḥyān in South Arabian inscriptions

Considering all this, the local sources provide only vague chronological anchors (after 542–after 343 BC) for the Lihyanite kingdom. Can external sources help narrow this time frame?

Inscription B-L Nashq

The oldest mention of Liḥyān comes from a recently published Sabaic text from Yemen, which records the travels of a Sabaean merchant (Bron & Lemaire 2009; Robin & de Maigret 2009). During a trading expedition to Cyprus, he passed through Dadan, the 'cities of Judah', and Gaza. Later, on a diplomatic mission for the Sabaean king Yadaʿʾīl Bayān, he visited several 'lands' of Arabia: *Ḏkrm* (unidentified), *Lḥyn* (Liḥyān), *ʾbʾsl* (unidentified), and possibly *Ḥnk* (Qaryat al-Fāw?).[11] The text has been dated to the first half of the sixth century BC, on the basis of a reference to 'the war between Chaldea and Ionia', which Bron and Lemaire ingeniously interpret as a Neo-Babylonian campaign in Cilicia. Such an early mention of Liḥyān may seem at odds with our *terminus post quem* for the Lihyanite kingdom in 552 BC. However, the dating of the text remains tentative.[12] Moreover, even assuming that this dating is correct, the text may quite conceivably refer to Liḥyān as a tribe, not to the Lihyanite kingdom with Dadan as its capital. Indeed, it also mentions Dadan, separately from Liḥyān, and there is good epigraphic evidence for a 'kingdom of Dadan' on the eve of Nabonidus' conquest (Macdonald 1997: 336). Thus, if the text was indeed written in the first half of the sixth century BC, the name 'Liḥyān' probably stands for a tribe, which had not yet taken over the al-ʿUlā oasis. The tribe of Liḥyān probably pre-existed the kingdom of Liḥyān, just as it survived it (see above).

The *Hierodulenlisten* from Maʿīn

Other references to Dadan and Liḥyān are found in the so-called *Hierodulenlisten* from Maʿīn, which are in fact lists of foreign wives married by Minaean men. These lists record the marriage of a 'free woman from Liḥyān' (Maʿīn 93B, l. 46–47) and of ten women from Dadan (Maʿīn 93A, 93B, 93D, 94, 95, 98; al-Said 2009: 102–103). These texts, however, cannot help refine the chronology of the kingdoms of Dadan and Liḥyān. First, their own date remains uncertain. All that can be said is that they were probably engraved before 352 BC (Lemaire 1996: 41–44; Bron 1998: 102–103). Second, we do not know exactly what 'Dadan' and 'Liḥyān' stand for in these lists. Liḥyān must probably be understood as an ethnonym, but we do not know whether Dadan refers to the 'kingdom of Dadan' or if it is simply a place name for the al-ʿUlā oasis, regardless of whether there was a 'kingdom of Dadan' or

[9] In Taymāʾ, a *šhr* king of Liḥyān is known from two unpublished Aramaic inscriptions (Macdonald, forthcoming; Stein, in press). Šahrū is also attested in two compound names borne by members of the Lihyanite royal family: *pṣgw šhrw* (Schwiderski 2004: 412) and *ʿlym šhrw* (Hausleiter 2010: 234).

[10] It remains unclear whether the *Lechieni* or the *Laeanitae* mentioned by Pliny (1967–2002: 6.155–156) refer to the Lihyanites.

[11] Robin and de Maigret (2009: 90–91) interpret *ḥnk* as a tribe name, but Bron and Lemaire (2009: 17) interpret it as a verb.

[12] Bron and Lemaire (2009: 21) also hint at the possibility that the war 'between Chaldea and Ionia' refers to the great revolt of Ionia against the Achaemenids in the early years of the fifth century BC, but they reject it because they find it unlikely that the author of the text confused the Persians with the Babylonians.

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a 'kingdom of Liḥyān' at the time. Even under Lihyanite control, Dadan may quite conceivably have been referred to as a specific place within the larger kingdom of Liḥyān.

To sum up, neither the local nor the external sources can provide firmly established dates for the Lihyanite kingdom. Contrary to a widely held view, there is no positive evidence that this kingdom reached its heyday during the Hellenistic period.

New data from the excavations at Madāʾin Ṣāliḥ/Hegra and al-Khuraybah/Dadan

Since no secure chronological anchors can be drawn from inscriptions and surface finds, archaeology has a crucial role to play in establishing the cultural and political chronology of north-west Arabia. In the last decade, the excavations carried out at Madāʾin Ṣāliḥ (ancient Hegra) and Khuraybah (ancient Dadan) have yielded a vast amount of new data, which allow a better understanding of the transition from Liḥyān to the Nabataeans.

Madāʾin Ṣāliḥ/Hegra

Hegra is mainly known as the 'southern capital' of the Nabataean kingdom, but traces of pre-Nabataean settlement have long been recognized at the site. They consist of a few surface finds which cannot be precisely dated (Potts 1993) and of some ninety-six inscriptions (84

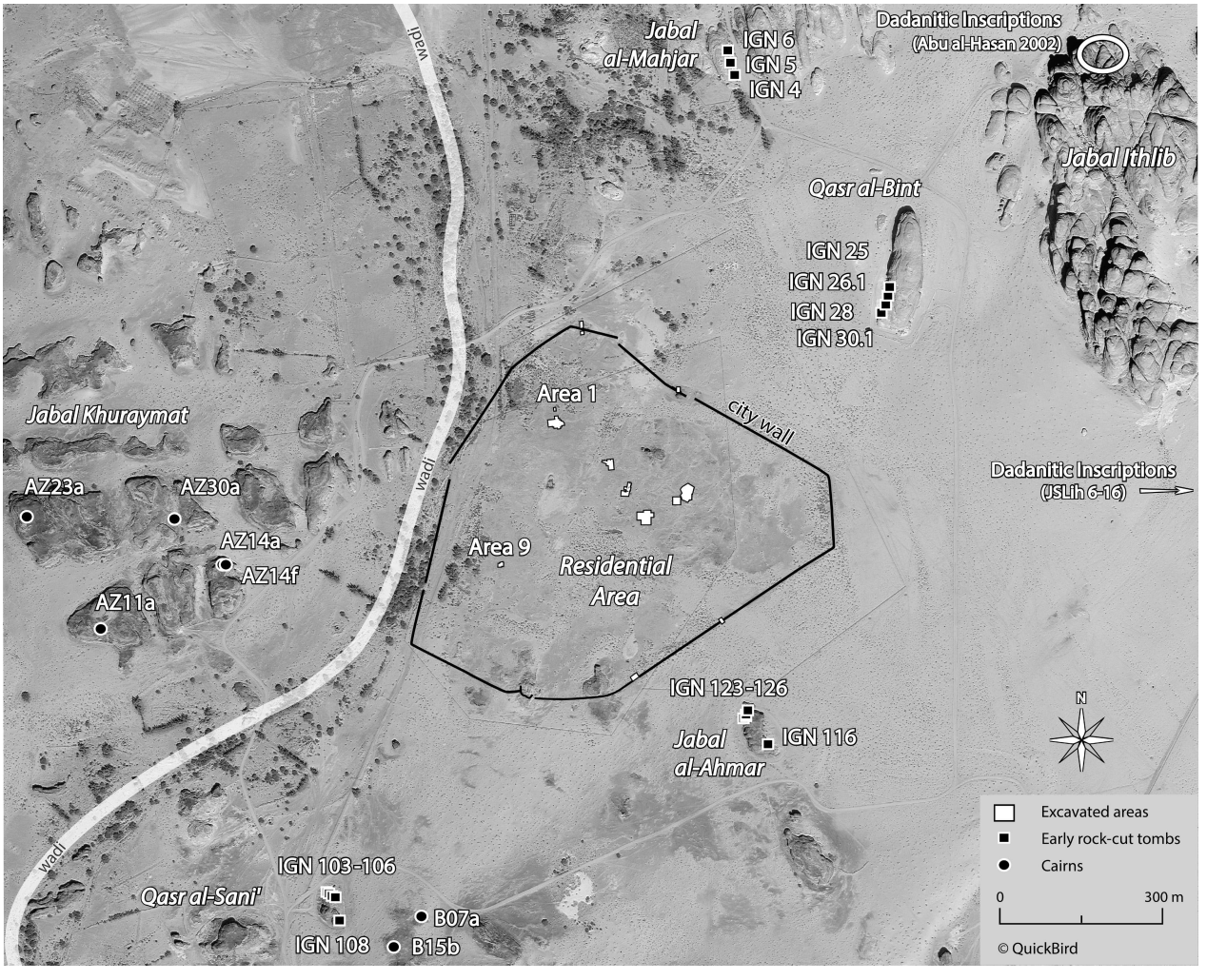

Figure 4. *A satellite image of Hegra/Madāʾin Ṣāliḥ.*

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Dadanitic, 9 Minaic, and 3 Aramaic) which have all been found outside the ancient city — mostly in Jabal Ithlib, a wide sandstone massif located east of the site (Fig. 4).[13] Most of these texts are graffiti, which testify to the existence of a military outpost guarding the approaches of Dadan at the northern edge of Jabal Ithlib (Abu al-Hasan 2002: 259–300) and to cultic activities inside the massif (CIS II 117, see Nehmé 2005: 160–161; JSLih 6–7?).[14]

As for the settlement itself, very little was known of its early phases before large-scale excavations were launched by the Saudi-French Madāʾin Ṣāliḥ Archaeological Project in 2008. The first five excavation seasons of this project (2008–2011 and 2014) have revealed a very long occupational history, which extends a long time both before and after the Nabataean period. Two areas have yielded particularly deep stratigraphic sequences: Areas 1 and 9.

Area 1

Area 1 is located in the northern part of the residential area (Fig. 4). It corresponds to an artificial mound of compact soil, *c.*50 m to the east of a well dug on the bank of the main wadi. After four seasons of excavation under the supervision of G. Charloux (2008–2011), some 600 m^2 were excavated, and a 2 m-deep stratigraphic sequence covering approximately a millennium of human occupation was recovered. This sequence rests on a thick alluvial deposit, whose purely geological nature has been demonstrated through core drilling (Fouache 2010: 298).

Six occupation phases were identified, with no significant architectural break. This architectural continuity may be due to the permanence of the circulation network since an east–west street bounded the domestic units to the north from the first occupation of the area.

Figure 5. *Excavation of the lower phases in Area 1 (view from the north-west). In the foreground, the east–west street.*

The most relevant phases for our discussion are Phases 1 and 2, which were exposed in a *c.*15 x 5 m-deep trench in the centre of Area 9 (Figs 5 & 6). In the stratigraphy, they only represent a *c.*60 cm-thick deposit and have yielded only a few finds, probably because most of the area was unroofed and regularly swept. By combining pottery analysis, numismatic data, and ^{14}C determinations, however, likely time spans for these phases can now be proposed (Figs 7 & 8).[15]

In Phase 1, mud-brick structures were built according to an orthogonal pattern roughly following the polar coordinates. A probable domestic or storage area was identified in the southern third of the trench, while the

[13] The thirty-six Dadanitic texts recorded by Abu al-Hasan (2002: 259–300) and the five Minaic texts recorded by Jaussen and Savignac (JSMin 1–6) must be added to the texts mentioned by Nehmé (2005: 160–161). The only pre-Nabataean inscriptions found outside Jabal Ithlib are JSMin 1–6, which were reused in the Ottoman fortress and in the masonry of a well, near the train station, *c.*2 km north of the 'residential area' of Hegra. They are also the only ones carved on building blocks. The origin of these stones is uncertain. They could have been brought from al-ʿUlā, where the sandstone is of much better quality than in Hegra.

[14] The existence of a military outpost is inferred from fifteen graffiti whose authors call themselves *nṭr ddn* (Abu al-Hasan 2002: nos. 312–313, 318, 323, 328, 331–332, 337–338, 343). It could date back to the Dadanite period. Indeed, inscription Abu al-Hasan 313 from Jabal Ithlib mentions a 'guardian of Matʿʾil and Dadan' (*nṭr mtʿʾl w ddn*). As was observed by Abu al-Hasan (2002: 262), this Matʿʾil whose protection is intimately linked with that of Dadan may be the Matʿʾil father of Kabirʾil, king of Dadan, known from inscription JSLih 138.

[15] These time ranges turn out to be slightly earlier than the preliminary datings initially proposed by the pottery specialists (see Durand 2011: 327–329).

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Figure 6. *Area 1: plans of Phases 1, 2a, and 2b.*

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Area 1	Sample	^{14}C determination [2σ]	Proposed dating
Phase 1	Ly-6670 (charcoal) Ly-8505 (charred bone)	*548–359 BC (91.9%) 509–371 BC*	5th - mid 4th *c.* BC
Phase 2a	Ly-9760 (seed)	*400–210 BC*	mid 4th *c.* BC–early 2nd *c.* BC
Phase 2b	Ly-9759 (bone) Ly-8506 (bone)	*356–60 BC 191–3 BC*	early 2nd *c.* BC–mid 1st *c.* BC
Phase 3	Ly-9758 (bone)	*43 BC–AD 75*	mid 1st *c.* BC–mid 1st *c.* AD

Area 9	Sample	^{14}C determination [2σ]	Proposed dating
Phase 1	/	/	Late 6th–4th *c.* BC
Phase 2	Ly-9770 (seed)	*394–210 BC*	4th–3rd *c.* BC
Phases 3-4	/	/	2nd–1st *c.* BC
Phase 5	Ly-9771 (seed)	*360–51 BC*	
Phase 6	/	/	mid 1st *c.* BC–mid 1st *c.* AD
Phase 7	/	/	1st *c.* AD

Figure 7. *A comparison of phases in Area 1 and Area 9.*

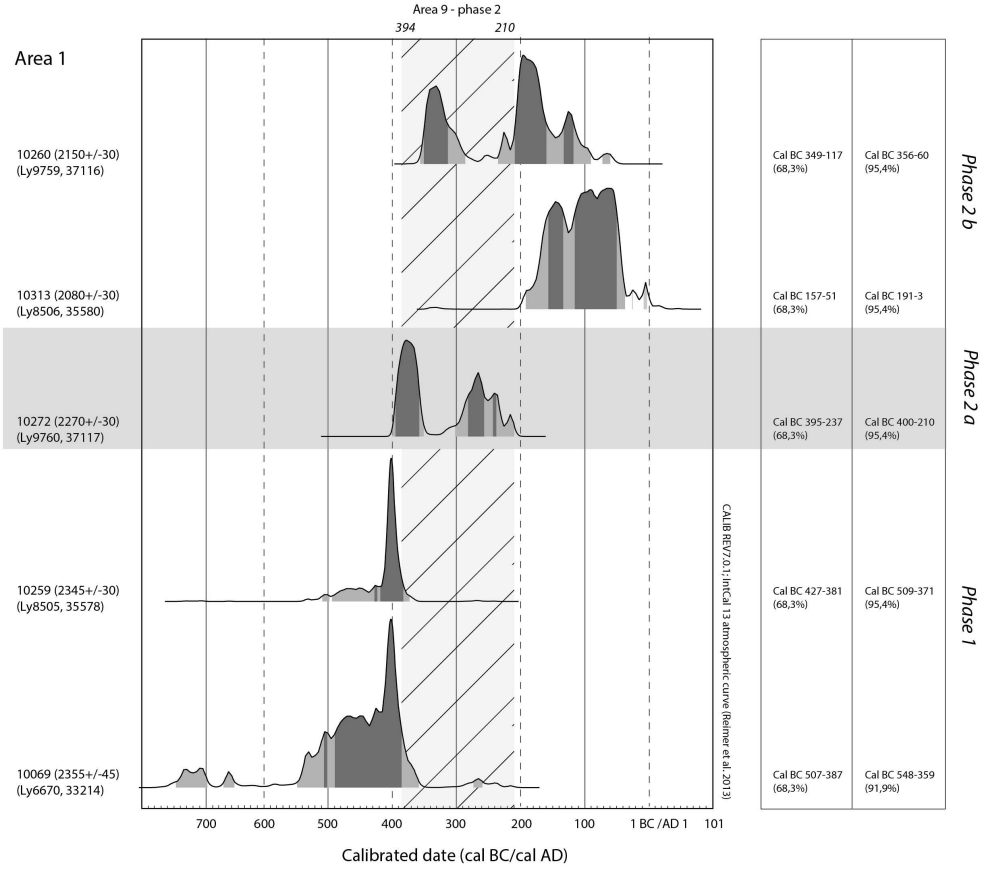

Figure 8. *^{14}C determinations in Area 1.*

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two northern thirds were certainly unroofed. The central third was probably a courtyard with light wooden (?) structures, as shown by several intersecting lines of post-holes, which were dug in it towards the end of the phase. As for the northern third, it seems to have already been an east–west passage, delimited by a wall on its northern side. The wall and the floor of the passage were covered with a homogeneous layer of dense white coating. Towards the end of the phase, after the level of the ground had risen, a drain was dug along the southern edge of the passage. Phase 1 seems to have been brought to an end by fire, because its thin dark deposits contain a great deal of ash. Since the bricks of the walls were not burnt, the fire probably only affected a roof or a wooden canopy in the southern part of the area. Phase 1 has yielded a homogeneous pottery assemblage mostly characterized by local fabrics nos. 9 and 41, which are typical for the earliest phases at Hegra but remain difficult to date (Durand 2011: 328–329). According to two ^{14}C determinations carried out on charcoal and carbonized bone from two separate contexts, this phase should be dated to the fifth and/or the first half of the fourth century BC.

Phase 2a lay immediately over Phase 1. From this phase on, the passage was bordered on each side by two long parallel walls. South of it, the two southern areas were probably both unroofed. Walls were removed in the southern area and in both rooms, buttresses (probably bases for stairs) were added. Several pits (some of which were stone-lined), channels, and small post-holes were distributed according to a regular pattern. The nature of these small rudimentary features remains unclear, but they may be related to a domestic context or to a small workshop. Both ^{14}C determinations and the strong architectural continuity with Phase 1 speak in favour of a fourth/third-century BC date for Phase 2a. The finds from this phase, however, include three small bronze imitations of Athenian owl tetradrachms and an unpainted fragment of a bowl the fabric of which is reminiscent of the earliest Nabataean fine wares (2011: 329). Although this single sherd may be intrusive and its identification remains uncertain, a closing date in the first half of the second century BC should therefore be considered.[16]

During Phase 2b, a gradual change in the use of space was observed. The two above-mentioned mud-brick bases were covered by sediment. In the central area, which was probably a small courtyard, two successive floors were identified. The lower floor was still characterized by the presence of post-holes and fireplaces (as in Phase 2a), but without any built feature. The upper floor was a flat surface with no fireplace, which seems to have been regularly swept. According to both ^{14}C datings and pottery finds (a fragment of Rhodian amphora, a Hellenistic black-glazed sherd, a sherd of 'Parthian glazed ware'), Phase 2b spans the second century BC to the first half of the first century BC.

The material from the following phase confirms this *terminus ante quem* for Phase 2b. Indeed, the assemblage of Phase 3 shows the first significant amount of Nabataean pottery and coins. Several sherds of Nabataean fine ware (Schmid 2b/c and 3a), a sherd of the locally produced 'two red lines' Nabataean-style ware, and a bowl with roulette decoration can be dated between the mid-first century BC and the late first century AD. Fourteen coins, including nine Nabataean issues, have also been found.[17] These homogeneous finds concur with the ^{14}C dating of an animal bone found on a floor (43 BC–AD 75). After Phase 3, the occupation of Area 1 continued until the fourth/sixth century AD (Phases 4 to 6).

Area 9

Area 9 is located in the south-western part of the ancient city (Fig. 4). It was excavated by Z.T. Fiema (2010–2011) and J. Rohmer (from 2014). In 2010–2011 Z.T. Fiema opened two 5 x 5 m trenches, which revealed eleven occupational phases ranging from the fourth/third century BC (at the latest) to the late fourth or early fifth century AD (Fiema 2010; 2011; Rohmer & Fiema, forthcoming).

Phase 1 corresponds to a casual occupation, made up of ash pockets lying directly over the sterile sand. Interestingly, this phase yielded a sherd of 'al-ᶜUlā painted ware' (Fig. 9), a type of painted pottery found in great quantities at al-Khuraybah/Dadan and most probably produced there (see most recently Tebes 2013: 326–328). A *terminus ante quem* for Phase 1 is provided by a ^{14}C determination from the following Phase 2 (394–210 cal BC [2σ]). Furthermore, the find of a residual sherd of 'wedge- and circle-impressed pottery' suggests that the earliest occupation in the area should be dated between the sixth and fourth centuries BC (Rohmer & Fiema, forthcoming), which is consistent with the dating of Phase 1 in Area 1.

The next phase (Phase 2) featured mud-brick structures associated with post-holes. The pottery study

[16] The beginning of phase Schmid 1 remains to be fully ascertained, since it is dependent on the excavations of al-Zanṭūr, which did not proceed below late second-century/early first-century BC levels. It could be earlier than the second half of the second century BC (Schmid 2000: 24, n. 117).

[17] One of the coins has yet to be studied.

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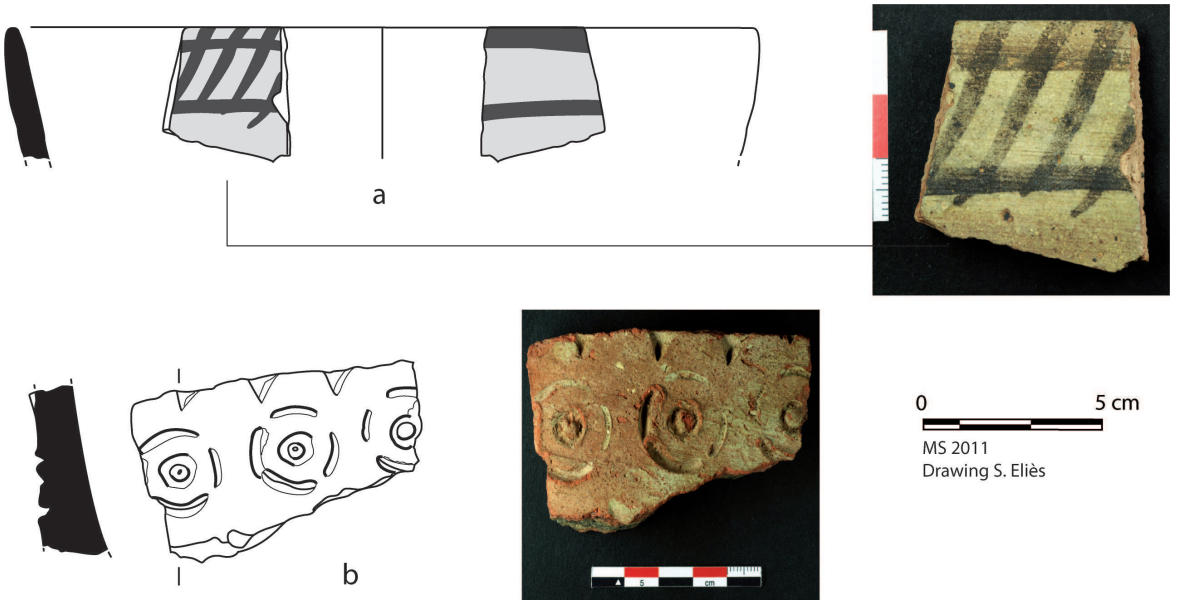

Figure 9. *Pottery from Area 9, trench A:* **a.** *a sherd of 'al-ᶜUlā painted ware';* **b.** *a sherd of 'circle- and wedge-impressed pottery'.*

and a ^{14}C determination carried out on charred seeds suggest a date in the fourth/third century BC. Following these occupations, Phases 3–5 are characterized by extensive and continuous dumping operations, perhaps related to religious practices, spanning the second and most of the first century BC. After a phase of low-intensity occupation in the late first century BC/early first century AD (Phase 6), more solid architecture appeared during Phase 7 (first century AD). These phases (6 and 7) were the first to yield significant quantities of Nabataean pottery and coins. After a wide-scale destruction at the turn of the first and second centuries AD, the occupation of the area continued until the early fourth century AD (Phases 8–10).

Although residual, two Aegean stamped amphora handles (Durand & Gerber 2010: figs 58–60; 2014: 163–164) and a silver tetradrachm of Alexander the Great (Fiema 2011: 172) found in Area 9 testify to advanced international trade in Hellenistic times.

The early necropolis

Outside the residential area, 'Hellenistic' pottery has been collected at several of the 276 hilltop burial cairns recorded by W. Abu-Azizeh on Jabal al-Khuraymāt and around Qaṣr al-Ṣāniᶜ (Abu-Azizeh 2011) (Fig. 4). Out of the thirty-nine cairns where pottery has been collected, seventeen have yielded local wares which are found in the pre-Nabataean levels of Areas 1 and 9 — especially a wheel-made creamy-beige ware with fine mineral temper (fabric 41). Some have also yielded Hellenistic imports, such as fragments of a black-glazed out-curved carinated bowl with out-turned rim (Durand 2011: 354, fig. 18), which can be dated between the late fourth and the late second centuries BC (Guz-Zilberstein 1995: 290–291). Seven of these structures are cairns of undetermined nature, five are circular tower tombs, four are rectangular tower tombs, and one is a pit grave that initially may have been covered by a cairn. In five cases, this pottery was mixed with a coarse red ware containing a great deal of mineral and vegetal temper, which is not known from the excavations in the residential area and may belong to an earlier period. It is therefore possible that these tombs were built at an earlier time (Chalcolithic? Bronze Age?) and reused in the second half of the first millennium BC.

In addition to these hilltop cairns, there may also be some pre-Nabataean rock-cut tombs carved in the sandstone massifs surrounding the ancient settlement (Fig. 4). On the south-western slope of Qaṣr al-Bint, north-east of the residential area, four high burial chambers with square openings were carved above the Nabataean-style façade tombs. Since two of these chambers were partially

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destroyed by the carving of Nabataean-style tombs, they seem to belong to an earlier period (Nehmé 2004: 671–672). The small square openings of these tombs, their location several metres above the ground, and their simple chambers with pit graves are strongly reminiscent of the tombs carved on the main cliff of al-Khuraybah/Dadan (Jaussen & Savignac 1909–1914, ii: 65–68, fig. 16, pls 21–35).[18] At Hegra, other such tombs have been found in Jabal al-Maḥjar (IGN 4-6), Jabal al-Aḥmar (IGN 116, 123-126), and east of Qaṣr al-Ṣāniᶜ (IGN 103-108). In total, seventeen tombs of this type are known at the site (Nehmé, forthcoming).

Preliminary conclusions

To sum up, there seems to have been a relatively continuous occupation of the western part of Hegra, along the main wadi, from the fifth or early fourth century BC onwards throughout the second half of the first millennium BC. The necropolises of this early settlement were located on the top of the western sandstone massifs, where burial cairns were built or reused, and probably on the slopes of the southern, northern, and eastern massifs, where several groups of ancient rock-cut tombs have been identified.

Since the Lihyanites extended their domination far to the north, up to Taymāʾ (Hausleiter 2010: 233–236; 2012: 825, 830), it is more than likely that, during at least part of this period, Hegra was under Lihyanite control. In terms of material culture, however, there are surprisingly few connections between Hegra and the Lihyanite capital. Although eighty-four Dadanitic inscriptions were recorded in Jabal Ithlib, none was found in the settlement itself (see above). Among the 111 recorded rock-cut tombs, seventeen are reminiscent of the 'Dadanitic' tradition, but their shape is very basic and their architectural and technological connection with the tombs from Dadan remains uncertain.[19] In the excavations of the 'residential area', the only element of 'Dadanitic' (i.e. Dadanite/Lihyanite) material culture identified so far is the sherd of 'al-ᶜUlā painted ware' found in Area 9 Phase 1.[20] The dating of this ware remains problematic: some scholars have proposed a date in the mid-first millennium BC or even in the first half of the first millennium BC, while others tend to date it to the last three centuries BC[21]— hence the importance of the sherd from Area 9, which represents the first well-stratified find of this type of ware. The context in which it was found belongs to the very first occupational period of the site, between the sixth and fourth centuries BC. Strikingly, no sherd of this ware was found in the later levels or on the surface of the site, despite repeated surface sherding (Parr, Harding & Dayton 1970: 23; al-Talhi 2000: 49–71; Nehmé et al. 2006: 50). All this suggests that the occupation of the 'residential area' of Hegra overlapped only briefly with the *floruit* of Dadanitic material culture, in the first centuries of the history of the site (sixth–fourth century BC).

But which period does this *floruit* correspond to — the Dadanite or the Lihyanite period? At al-Khuraybah/Dadan, large amounts of painted pottery are scattered on the surface of the site, which led P. Parr to suggest that the al-ᶜUlā painted ware was produced until the final major occupation of the site, that is until the Lihyanite period (Parr, Harding & Dayton 1968: 213–214; Parr 1989: 64; Hausleiter 2012: 828). If one accepts this view, the chronology of this ware at Hegra would speak in favour of an early date for the Lihyanite period in the al-ᶜUlā oasis.

The sites of the al-ᶜUlā oasis

Tall al-Kathīb

Judging by the published evidence, the King Saud University excavations at Tall al-Kathīb, a small site located 1 km north-north-west of al-Khuraybah/Dadan, seem to confirm this working hypothesis (Fig. 2). The excavator has identified two main architectural phases (al-Zahrani 2007): the earlier phase features domestic mud-brick architecture and is dated by the excavator to the first half of the first millennium BC. It corresponds to 'stratum' III, where all the al-ᶜUlā painted ware apparently comes from. The second phase includes the remains of a monumental building, which the excavator interprets as a temple. It has two sub-phases: the earlier

[18] In terms of architecture and technology, however, the connection with al-Khuraybah/Dadan remains to be ascertained. As observed by Nehmé (forthcoming), the seventeen tombs from Hegra do not have exactly the same layout as the few tombs from al-Khuraybah the layout of which is documented. A comprehensive survey of the tombs from al-Khuraybah and a comparison of the carving technique are still needed.

[19] See above, n. 18.

[20] Here, 'Dadanitic' (a term borrowed from epigraphists) means 'related to the site of Dadan', regardless of the period. 'Dadanite' refers more specifically to the kingdom of Dadan, and 'Lihyanite' to the kingdom of Liḥyān.

[21] The following datings have been proposed for the al-ᶜUlā painted ware: late second millennium and first half of the first millennium BC (al-Ghazzi 2000; al-Zahrani 2007); 'Iron Age II, in Palestinian archaeological terminology' (Parr 1989: 76–81; al-Said & al-Ghazzi 2013: 132); mid-first millennium BC (Bawden 1979: 70–71); Persian to Early Hellenistic period (Parr, Harding & Dayton 1968: 213); sixth to second century BC (Parr 1989: 64); 'final centuries of the 1st millennium B.C.' (Bawden & Edens 1988: 210).

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one is represented by 'stratum' II, dated between the fifth and early second centuries BC, while the later one is represented by 'stratum' I, dated to the first century BC–second century AD. This chronology, however, does not withstand close scrutiny. Two sherds of Attic red-figure pottery and three sherds of Attic black-glazed ware (or undecorated fragments of red figure vases) testify to a prosperous occupation with advanced trade in the fifth or early fourth century BC (2007: 165). Although these sherds are ascribed by the excavator to stratum II, they probably belong with the al-ᶜUlā painted ware of stratum III. Indeed, the remaining pottery from stratum II seems to date to a much later period. The ridged cooking pots with high straight neck and bevelled rim (2007: 137–138)[22] are characteristic of the first–fourth century AD in southern Transjordan (Gerber 2001: 9, fig. 2/A–H), and those with short splayed neck (2007: 154–155) are known in first- and second-century AD contexts at Hegra (Durand 2011: 330, 332; figs 9, 13). The jars or craters with incised wavy lines (al-Zahrani 2007: 144–145) belong to a tradition that, in the southern Levant, is known from the first century AD until the Umayyad period (Wilson & Saᶜd 1984: 69–70; figs 270–286). In stratum I, similar or later types are found (al-Zahrani 2007: 95–125), but a possible sherd of ESA type Hayes 22 (2007: 124–125) may be dated between the late second century BC and the early first century AD (Hayes 1985: 23–24). Between the fifth/fourth-century BC horizon of stratum III and the post-first-century BC horizon of strata II/I, there does not seem to be any sign of occupation at the site.

Khīf al-Zahrah

The small-scale excavations carried out by G. Bawden at Khayf al-Zahrah, a small rural site located *c.*1 km north of al-Khuraybah/Dadan, point in the same direction (Bawden 1979) (Fig. 3). This site had only one phase of occupation, characterized by a large amount of al-ᶜUlā painted ware. No Hellenistic, Nabataean, or Roman pottery was associated with this ware. The excavator therefore suggests that the site was abandoned before the mid-third century BC.

Al-Khuraybah/Dadan

At both Tall al-Kathīb and Khīf al-Zahrah, the 'Dadanitic' phase characterized by the presence of al-ᶜUlā painted ware seems to end in the fourth/early third century BC — confirming the results obtained in Hegra. At al-Khuraybah/Dadan, however, the situation is less clear-cut.

The phasing proposed by the excavators fits the conventional subdivisions of the history of north-west Arabia (al-Said & al-Ghazzi 2013: 45–46). They distinguish an early phase (mid-second millennium BC), a Midianite phase (second half of the second millennium BC), a Dadanite phase (first half of the first millennium BC), an early Lihyanite phase (fourth/third century BC), and a late Lihyanite phase (second century BC). According to the latest excavation report by al-Theeb (2013: 20), the late Lihyanite phase should be extended until the end of the first century BC.

As far as the period under discussion is concerned, the published pottery indicates that the main occupation of the site continued at least into the third and early second century BC. Twelve black-glazed sherds (al-Said & al-Ghazzi 2013: 120–124; al-Theeb 2013: 173) may be Attic (sixth–fourth century BC) or Middle Eastern wares (mid-fourth century–late second century BC, cf. Guz-Zilberstein 1995: 289–295). Most notably, there are two Rhodian stamped amphorae, one of which bears the eponym Theuphanes and can be dated to *c.*199 BC (al-Said & al-Ghazzi 2013: 124; see Finkielsztejn 2001: 191).[23]

Among later imports, there are some sherds of Nabataean fine ware, both painted (al-Theeb 2013: 171) and unpainted (al-Said & al-Ghazzi 2013: 126). The two sherds of painted ware belong to the local '2 red lines' type, probably produced in Hegra from the second half of the first century BC to the first century AD (Durand & Gerber 2014: 160–161). Two body sherds of Parthian blue-glazed ware (al-Theeb 2013: 173) cannot be precisely dated between the third century BC and the third century AD (Haerinck 1983). Only two coins have been published (al-Theeb 2013: 151–152). One of them is a small Ptolemaic bronze probably struck under the reign of Ptolemy X, between 107 and 88 BC (Svoronos 1904: nos. 1698, 1703, 1917). The other is a small bronze imitation of Athenian owl tetradrachms, which is reminiscent of coins found at Hegra, though more angular and abstract. Such coins seem to have been struck between the late third and the late first centuries BC and at Hegra they remained largely in use throughout the first century AD (Augé 2010: 277; 2013: 132).

[22] Judging by the picture p. 137, al-Zahrani 2007: no. 38 has a broken bevelled rim, not an everted rim as on the drawing p. 138.

[23] There is another eponymous Theuphanes in period Ia, but his name is always abridged on the stamps (Finkielsztejn 2001: 54–55).

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Figure 10. *A North Arabian Athena/owl bronze coin from Area 1.*

Pending an exhaustive publication of the excavated pottery and coins, it is difficult to know whether the occupation of Dadan continued uninterrupted between the early second century BC and the 'Nabataean' phase, or if there was a hiatus between the early/mid-second century BC and the mid-/late first century BC. What speaks in favour of a decline of the site in the last two centuries BC, however, is the scarcity of coins found in the excavations. As of February 2014, after nine excavation seasons, only fifteen coins had been found at the site.[24] Such a figure is extremely low, especially compared to the large numbers of third- to first-century BC coins found at Hegra (Augé 2010). This suggests that the heyday of the site took place before the spread of bronze coinage in north-west Arabia, that is, probably before the late third century/early second century BC.[25]

Preliminary conclusions

This quick review of the sites from the al-ᶜUlā oasis suggests a disruption in the history of the oasis within the third century BC. Tall al-Kathīb and Khīf al-Zahrah seem to have been abandoned during this time period, while Dadan seems to have entered a phase of decline. Judging by the available evidence, the end of the local painted pottery tradition may correspond to this disruption.

North Arabian owl coins and the rise of Hegra

The contrast between Dadan and Hegra is striking. Judging by the architecture, the pottery, and the coins, Hegra seems to have known a continuous development throughout the second half of the first millennium BC. This raises the issue of political power in the oasis during this time period. Did Dadan remain the political and economic centre of the region in the last three centuries BC? The numismatic evidence from Hegra may help resolve this complicated issue.

North Arabian owl coins

In north-west Arabia, a series of local bronze coins struck in the final centuries of the first millennium BC has long been recognized (Head 1878: 274–275, 283–284; Huth 2010: 234). These coins are very distant imitations of Athenian owl tetradrachms, struck on irregular flans, with a very stylized Athena head on the obverse and an equally stylized owl on the reverse (Fig. 10). The political entity that issued these coins is unclear. Several scholars have recently suggested ascribing them to the kingdom of Liḥyān (Huth 2010: 234; Augé 2010: 277).

The results of the recent excavations at Dadan and Hegra challenge this view, however. Indeed, very few coins of this type — very few coins altogether — have been found at Dadan, after nine seasons of large-scale excavations.

[24] The study of the coins from Dadan is being carried out by Mr Sultan A. ad-Daham, researcher at King Saud University, whom we sincerely thank for sharing this information with us.

[25] In the current state of knowledge, it is difficult to date the first spread of bronze coinage in north-west Arabia. At Hegra, all identifiable Hellenistic bronze coins date to the third century BC, and the striking of the local owl coins may have begun at the end of this century (Augé 2010: 277). In neighbouring regions, both the proto-Nabataean bronze coins and the Sabaean bronze coins seem to appear around the mid-third century BC (Hoover 2010: 172–173, 186, 191).

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Out of fifteen recorded coins, seven belong to the Athena/owl type (Sultan A. ad-Daham, personal communication). Conversely, the excavations of Hegra have yielded a huge number of such coins — 194 as of 2012 — after only five excavation seasons (Augé 2010: 277).[26] These coins seem to have appeared in the early second century BC at the latest, since the earliest ones were found in Phase 2a in Area 1 (mid-fourth– early second century BC) and in Phase 3 in Area 9 (second century BC). Many of them have very irregular flans reminiscent of Hasmonean and Nabataean coins (Head 1878: 283), and there may be some cases of overstrike on Hellenistic coins (Augé 2010: 277); therefore, they probably continued to be struck until the late first century BC.

So far, Hegra is the only site where a significant number of such coins has been found. Consequently, in the current state of knowledge, the most likely hypothesis is that they were struck there, not in Dadan. As coinage is one of the major attributes of political power and sovereignty, this implies that by the early second century BC, the political and economic centre of the region had shifted from Dadan to Hegra.

A tribal centre?

Which power may have established its centre in Hegra in the last two centuries BC? A first possibility would be the transfer of the Lihyanite capital from Dadan to Hegra. A natural disaster, such as an earthquake (al-Said 2010: 265), might have caused the abandonment of Dadan and the transfer of the capital to Hegra. Such a transfer to the north would not be illogical, since Hegra controls both the route passing through the canyon of al-ʿUlā and the route that bypasses the mountains of al-ʿUlā to the east. The absence of Dadanitic inscriptions inside the 'residential area' of Hegra, however, and — more importantly — the absence of Dadanitic funerary inscriptions around the site make this hypothesis unlikely. All the Dadanitic inscriptions recorded at the site are graffiti carved in Jabal Ithlib — mostly in its northern and eastern parts (Fig. 4). Many of them seem to be related to a military garrison established at the northern edge of this massif, not to the site of the ancient city of Hegra. The soldiers of this garrison define themselves as 'guardians of Dadan' (*nṭr ddn*), which seems to imply that al-Khuraybah/Dadan was still the capital at that time.[27]

One may then think of the Nabataeans, whose takeover of the region is still uncertainly dated (see above). The owl coins, however, do not bear any reference to the Nabataean kings and, unlike 'proto-Nabataean' anonymous issues, they are very rare at Petra (three recorded specimens; see Augé 2013: 132). More generally, there are very few cultural connections between Hegra and Petra in the second and first centuries BC. Admittedly, no specific Nabataean material culture can be identified before the end of the second century BC (Schmid 2008: 361; Mouton & Schmid 2013); even in the first century BC, however, there are very few sherds of Nabataean painted ware (Durand & Gerber 2014: 159), only a handful of dubious Nabataean coins (Augé 2010: 276), and no inscription whatsoever in the Nabataean script at Hegra. All this suggests that Hegra was not fully integrated into the Nabataean cultural and economic sphere until the second half of the first century BC. Thus, although the hypothesis of an early Nabataean takeover of the area cannot be ruled out, there is simply no evidence for it in the current state of knowledge.[28]

The remaining hypothesis is that of an autonomous power, distinct from both the Lihyanites and the Nabataeans, though perhaps allied to the latter.[29] It is possible that another North Arabian tribe gained influence in the region in the last two centuries BC, either evicting Liḥyān or filling the power vacuum left by the decline of the kingdom. Classical sources mention many names of tribes inhabiting the northern Ḥijāz. The second-century BC Greek geographer Agatharchides of Cnidos, transmitted by Diodorus (1935: 3.44) and Photios (1974: cod. 250), mentions the Banizomenes and the Thamudenoi on the mountainous coast south of the Gulf of Aqaba (Burstein 1989: 152–155). In the first century AD, Pliny (1967–2002: 6.157) haphazardly lists a dozen tribes (Thimanei, Taveni, Suelleni, Araceni, Arreni, Hemnatae, Avalitae, Thamudaei, etc.) which border the Nabataeans 'in the interior of Arabia', along with the towns of Domata (Dūmah) and Haegra. Later, in the second century Ptolemy (1998: 6.7.21) states that

[26] By comparison, the total number of proto-Nabataean and Nabataean coins recorded in all excavations at Petra between 1990 and 2012 is only 272 (Augé 2013: 129).

[27] See above, n. 14.

[28] The account of Aelius Gallus' expedition by Strabo (1983: 16.4.24) does not testify to Nabataean control over Hegra and its region in 25 BC. Strabo mentions a locality called Egra Kome, which belonged to the Nabataeans. It has sometimes been identified with Hegra (see most recently Nappo 2010: 340), but Strabo makes it clear that it was located along the sea (κεῖται δ'ἐπὶ θαλάττης). It could perhaps be identified with Akrā, south of al-Wajh (al-Ghabban 1994).

[29] At the time of Aelius Gallus' expedition, the Nabataeans controlled several ports (Leuke Kome, Egra Kome) on the Red Sea coast and had allies in the interior, such as Aretas, who was a kinsman of King Obodas III and received the Romans in a friendly way (Strabo 1983: 16.4.24).

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'the inland parts of the country [Arabia Eudaimon] next to the mountainous regions situated towards the North' are occupied from north to south by the Skenitai, the Thaditai, the Sarakenoi, and the Thamydenoi.

Thus, there could be many candidates for an autonomous tribal power in Hegra during the last two centuries BC. Of particular relevance here are the Avalitae, since they are often said, on the basis of Pliny's text, to have owned 'Haegra' and Domata (e.g. Nehmé 2004: 632; Macdonald 2009*a*: 18). There is nothing in Pliny's text (1967–2002: 6.157), however, to suggest that these towns belonged to that tribe: the text lists paratactically names of tribes and *oppida*, without suggesting any relationship between them.[30] On the other hand, one cannot but notice the recurrence of the Thamudenoi/Thamydenoi/Thamudaei (Arabic Thamūd), who are also closely linked to the site of Hegra in the Islamic tradition (Shahîd 2000). According to Agatharchides' account, the Thamudenoi occupied the coastal mountain range stretching between the first two main bays south of the Gulf of Aqaba, probably the bay of ᶜAynūnah and the bay of al-Wajh (Burstein 1989: xii, 152–155). This location is confirmed by the famous inscription from al-Rawwāfah, 170 km north-west of Hegra, which commemorates the construction of a temple to Marcus Aurelius and Lucius Verus by Thamudean auxiliaries of the Roman army, in the 160s AD (Macdonald 2009*b*). Moreover, Pliny (1967–2002: 6.157) mentions the Thamudaei immediately next to 'Haegra'.[31] Could the Islamic tradition about the Thamūd be a distant echo of Thamudean presence at Hegra before the Nabataean takeover? This possibility should at least be considered in future research.

[30] 'Nabataeis Thimaneos iunxerunt veteres, nunc sunt Taveni, Suelleni, Araceni, Arreni oppido in quod negotiatio omnis convenit, Hemnatae, Avalitae, oppida Domata, Haegra, Thamudaei, oppidum Baclanaza, Chariattaei (…)' (Teubner edition). The Loeb edition puts 'oppida Domata, Haegra' in brackets, suggesting a relation of dependence between the Avalitae and these two *oppida*, but this choice is arbitrary. The only *oppidum* in this list, which is explicitly ascribed to a tribe is that of the Arreni, because it is put in the ablative ('Arreni oppido …') — probably a kind of descriptive ablative. See Pliny 1967–2002: 6.155 for another example of this construction ('mare accolunt et Aelamitae oppido eiusdem nominis, iis iuncti […] Vadaei oppido magno […]').

[31] The ascription of the *oppidum Baclanaza* to the Thamudaei in the Loeb edition also stems from an arbitrary punctuation (see above, n. 30).

Conclusion

We suggest that Dadan and the neighbouring sites of the al-ᶜUlā oasis entered a phase of decline in the third century BC, while Hegra developed and became the centre of the region. On the regional scale, this transfer probably reflects a shift in the balance of power between local tribes, to the disadvantage of Liḥyān. On the scale of the peninsula, it probably echoes the decline of Liḥyān's traditional allies, the Minaeans, in the last two centuries BC (Robin 1998: 184–185; Arbach 2003: 5). It may therefore be understood in the light of the end of South Arabian hegemony over caravan trade.

In terms of material culture, we suggest that the third-century BC disruption corresponds to the end of the Iron Age painted pottery tradition in the al-ᶜUlā oasis, and to the first steps in the monetization of the regional economy through the striking of local bronze coins. Pending further research, it may therefore legitimately be considered as the end of the Iron Age in the north-west of the Arabian Peninsula.

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Sigla

CIS II	*Corpus Inscriptionum Semiticarum*. ii. *Inscriptiones aramaicas continens*. Paris: Imprimerie nationale, 1889–1932.
JSLih	Dadanitic inscriptions in Jaussen & Savignac 1909–1914.
JSMin	Minaic inscriptions in Jaussen & Savignac 1909–1914.
JSNab	Aramaic and Nabataean inscriptions in Jaussen & Savignac 1909–1914.
M	Minaic inscriptions in Garbini 1974.
Maᶜīn	Minaic inscriptions in Bron 1998.

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